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WT Docket No. 96-18

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**Reply Comments of Comp Comm, Inc.
on the Commission's
Notice of Proposed Rule Making**

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CHC

The formulas proposed in the NPRM for 929-931 MHz paging will adversely effect system operations and should be revised.

As expressed in the March 18, 1996 comments, service providers are opposed to implementing the formulas proposed in the NPRM for 929 MHz and 931 MHz paging. No comments had endorsed the formulas as proposed in the NPRM. On the contrary, many voiced caution that the formulas would drastically reduce contour boundaries, resulting in degraded service from relaxed interference protection criteria.¹ The NPRM formulas are based upon an assumed value for reliable service median field strength of 47 dBμV/m. This assumed value greatly underestimates the distance to the reliable service and interference contours.

929-931 MHz reliable service area should remain consistent with methods to determine reliable service area for other frequency bands.

Comp Comm had suggested the Commission develop formulas in accordance with the procedures previously used for lower

¹ See, e.g., Comments of: Airtouch Paging, pp. 24-27; American Paging, p. 3; Ameritech Mobile Services, pp. 2-7; Arch Communications Group and Westlink Licensee Corporation, pp. 12-14; AT&T Wireless Services, pp. 10-11; Jon D. Word Pioneer Telephone Cooperative, pp. 12-15; Liberty Cellular, pp. 3-5; Metrocall, Inc., p. 10; Mobile Telecommunication Technologies Corp., pp. 7-9; PageAmerica Group, pp. 1-2; PageMart, pp. 2-6; The Paging Coalition, pp. 10-15; Paging Network, pp. 11-15, 17-19, and attachment; Priority Communications, pp. 7-8; Pronet, pp. 15-17.

band common carrier paging (CCP) frequencies. In our comments, we suggested the following formulas be used in place of the ones proposed in the NPRM:

$$d_{Service(km)} = 0.46 \times haat_m^{0.48} \times erp_w^{0.30}$$

$$d_{Interference(km)} = 4.75 \times haat_m^{0.36} \times erp_w^{0.18}$$

These formulas are based upon a reliable service median field strength of 33.38 dBμV/m. This value, as opposed to the one proposed in the NPRM, is derived from a receiver sensitivity of 0.35 μV and applied probability theory to estimate 90% reliability. These methods are in accordance with the lower band reliable service calculations derived from the Carey report².

929-931 MHz protected service area should not be reduced.

The formulas proposed by Comp Comm will satisfy the concerns voiced in the comments regarding implementation of the NPRM formulas. As discussed above, many comments recognized the likely result of the NPRM formulas as degraded service from relaxed interference protection due to reduction of contour distances. The reduction of contour distances is due to the NPRM's 47 dBμV/m assumption of reliable service median field strength. Comp Comm had, in its comments, demonstrated a method to determine reliable service median

² See Carey Report, FCC Report No. R-6406.

field strength. The need for a more accurate reliable service median field strength was further endorsed by the technical comments of TCG³. Ray Trott compared the NPRM proposed formulas to the Okumura Hata propagation prediction model. His conclusions show the NPRM formulas underestimate signal propagation. We agree the NPRM formulas underestimate reliable service and interference contours, and offered the above formulas. As demonstrated graphically in Attachment 1, these formulas calculate greater contour distance values than the NPRM formulas, and consequently, increase interference protection.

³ See Declaration of Raymond C. Trott, P.E., of Trott Communications Group, Inc. (TCG), attached as Exhibit 1 to Comments of Metrocall, Inc. TCG specified a received signal level at receiver sensitivity of 5.0 μ V, or -93 dBm, for 95% reliability. This compares to the value recommended by Comp Comm of -97 dBm to be used as a basis of the formulas. Comp Comm used 0.35 μ V, or -115 dBm, for 50% reliability; assuming a normal distribution of receive probability, and converting from 50% to 95% reliability using $\sigma_{UHF} = 10.92dB$, yields an equivalent value of -97 dBm.

Conclusion

The formulas suggested in this paper will offer greater interference protection to incumbents, conform to procedures for lower band CCP reliable service determination, and offer a more accurate prediction of reliable service and interference contours. For these reasons, Comp Comm believes the Commission should reconsider the 47 dBuV/m field strength service area requirement and the formula derived from it.

Respectfully submitted,

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Attachment 1

